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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,108	09/30/2003	Soumyadeb Ghosh	126344-1	4989

23413 7590 12/06/2005

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EXAMINER

SANDERS, KRIELLION ANTIONETTE

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,108

Applicant(s)

GHOSH ET AL.

Examiner

Kriellion A. Sanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 17-23 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/04, 1, 5, 8/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-16 and 24 in the reply filed on 9/30/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ameraseka et al, US 2002/0183438 taken with Elkovitch et al US 2005/0070657 and Nahass et al, US Patent No. 5,591,382.

4. Ameraseka et al, US 2002/0183438 discloses conductive polymeric composition comprising

Either of a Thermoplastic and/or thermoset resin and

An electrically conductive filler system further comprising:

small carbon fibers and

carbon powder and/or non-conductive filler

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The small carbon fibers may be carbon nanotubes having a diameter of 2000 nanometers or may be graphitized carbon fibers. The carbon nanotubes would correspond to the nanosized conductive filler of applicant's claims. The carbon fibers have aspect ratios greater than or equal to 5. The small carbon fibers may be used with conductive carbon black powder. The carbon black is used in an amount that is greater than 0.25% of the total composition. See paragraphs 0015 and 0019. Since the small carbon fibers of Ameraseka et al may be graphitized or may be carbon nanotubes, the reference does not really distinguish between the two components. Therefore applicant's use of both nanosized conductive fillers and graphite would expectedly yield an additive effect since a nanosized conductive filler may actually be graphite.

This is further documented by Elkovitch et al, US 2005/0070657, which teaches that nanosized conductive fillers may be carbon fibers, carbon black and graphite. See paragraph 0098. Elkovitch teaches compositions of thermoplastic and/or thermoset polymers, a single wall nanotube composition and a nanosized conductive filler, such as graphite. Applicant's nanosized conductive fillers may be single wall carbon nanotubes as set forth in present claim 11.

Elkovitch et al therefore teaches these components of applicant's claims. Patentee further discloses a poly(arylene ether) composition having an intrinsic viscosity of about 0.10 to about 0.60 deciliters per gram (dl/g), as measured in chloroform at 25.degree. C. This may or may not overlap with the viscosity requirements of applicant's claim 16, since conversions formats are not readily available. However, it does relate a need to synthesize the compositions within certain parameters. Such parameters are considered to be obvious to the ordinary practitioner.

Also see paragraphs 0010, 0013, 0087 and claim 1.

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It is common to form carbon fibers from polyacrylonitrile or pitch. Nothing unobvious is seen in using fibers derived from these components. See Nahass et al at col. 1, lines 28-35.

Information Disclosure Statement

Prior art cited on form 1449 must include a month and year of publication to be considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-1122.

The examiner can normally be reached on Monday through Thursday 6:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kriellion A. Sanders
Primary Examiner
Art Unit 1714